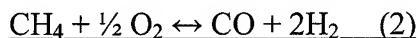


**Amendments to the Specification:**

Please replace specific paragraph [0005] on Page 2 of the specification as filed with the replacement paragraph set out below.

**[0005]** The catalytic partial oxidation (CPOX) or direct partial oxidation of hydrocarbons (e.g., natural gas or methane) to syngas has also been described in the literature. In catalytic partial oxidation, natural gas is mixed with air, oxygen-enriched air, or oxygen and introduced to a catalyst at elevated temperature and pressure. The partial oxidation of methane yields a syngas mixture with a H<sub>2</sub>:CO ratio of 2:1, as shown in Equation 2.



This H<sub>2</sub>:CO ratio is more useful than the ratio from steam reforming for the downstream conversion of the syngas to chemicals such as methanol and to fuels. The CPOX reaction is exothermic, while the steam reforming reaction is strongly endothermic. Furthermore, oxidation reactions are typically much faster than reforming reactions. This allows the use of much smaller reactors for catalytic partial oxidation processes than is possible in a conventional steam reforming process.

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Please replace specific paragraph [0015] on Page 5 of the specification as filed with the replacement paragraph set out below.

**[0015]** Notwithstanding the advances that have been made in deterring loss of catalytic metal and promoters through sintering and/or solid reaction with various support materials, there remains a need for supported catalysts that avoid deactivation due to the occurrence of undesirable solid reactions between the active metal and promoters that are caused by exposure to the high temperatures that prevail at CPOX reactor operating conditions. Catalyst instability due to sintering of the active metal and promoter and/or loss of the catalytic metals and/or promoters due to solid reaction between the two components ~~contributes~~contribute to catalyst cost. Increased catalyst costs are reflected in higher processing costs for producing synthesis

gas. A way of overcoming these catalyst problems is needed so that production of synthesis gas at high space velocity yields via a catalytic partial oxidation process is practical for commercial industrial-scale applications.

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Please replace specific paragraph [0038] on page 11 of the specification with the replacement paragraph set out below.

**[0038]** Additionally, the structurally stabilized supports disclosed in co-owned U.S. Patent Application No. 60/425,383 may be used. Those supports preferably contain a refractory oxide and a structural promoter or stabilizer comprising an element from Groups 1-14 of the Periodic Table of Elements (New IUPAC notation), such as B, Mg, Si, Ca, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Sr, Zr, Ba, Se and the rare earth elements from Sc through Lu, especially Si, Mg, Ca, Mn, Co, Fe, Zr, Y, La, Ce, Pr, Nd, and Sm. The formation of a solid solution or crystal lattice stabilized composition is believed to provide a more robust catalyst that deters loss of catalytic and/or promoter metal by solid reaction with the support material. Stabilized supports disclosed in co-owned provisional U.S. Patent Application Nos. 60/419,073 and 60/419,003 (incorporated herein by reference in their entirety) may also be used. These supports are made using a boehmite or pseudo-boehmite material. The boehmite or pseudo-boehmite material can be contacted with a structural promoter such as theseany of the elements described above, and is exposed to a heat treatment such as calcination. The disclosures of these applications are incorporated by reference in their entirety.

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Please replace specific paragraph [0058] on page 17 of the specification with the replacement paragraph set out below.

**[0058]** The runs were conducted at a volumetric oxygen to methane ratio of 0.55, a preheat temperature of 300°C, and a combined flow rate of 3,500 cc/min (3.5 standard liters per minute (SLPM)), corresponding to a gas hourly space velocity (GHSV) of about  $1.7 \times 10^5 \text{ hr}^{-1}$ , or at a flow rate of 5,000 cc/min (about  $2.4 \times 10^5 \text{ hr}^{-1}$  GHSV), and at a pressure of 5 psig (136 kPa). The reactor effluent was analyzed using a gas chromatograph equipped with a thermal conductivity detector.

Appln. No. **10/699,018**

Response Dated April 27, 2007

Reply to Office Action of April 6, 2007

The data reported in Table 1 and Figure 1 ~~were~~was obtained after approximately 3.5 hours on stream at the specified conditions.